

ABSTRACT OF THE DISCLOSURE

A sensor for determining the angular position of a radiating point source in two dimensions includes a mask encoded in two skewed directions with waveforms consisting of several frequencies in prescribed patterns. 5 The frequency spectra of the received detector patterns are computed. In order to facilitate such computations, the constituent frequencies are separated so as to be distinguished in the Fast Fourier Transform (FFT). Each of the frequency patterns that are coded on the variable transmissivity mask consists of a series of low frequencies followed by a 10 series of variable frequencies, and a series of high frequencies. The variable frequencies exhibit frequency changes responsive to various image positions. The low and high frequencies are responsive in phase to variations in image position. The frequency variations in the variable frequencies are used to indicate coarse position while the phases of the 15 fixed low and high frequencies are used to indicate medium and fine position. In a second embodiment, the mask pattern is formed by a first pattern including low variable and high frequency components, a second pattern with fixed low and high frequency components, and a third pattern with variable frequency components. The method of determining position is 20 also disclosed.